1.0 INTRODUCTION

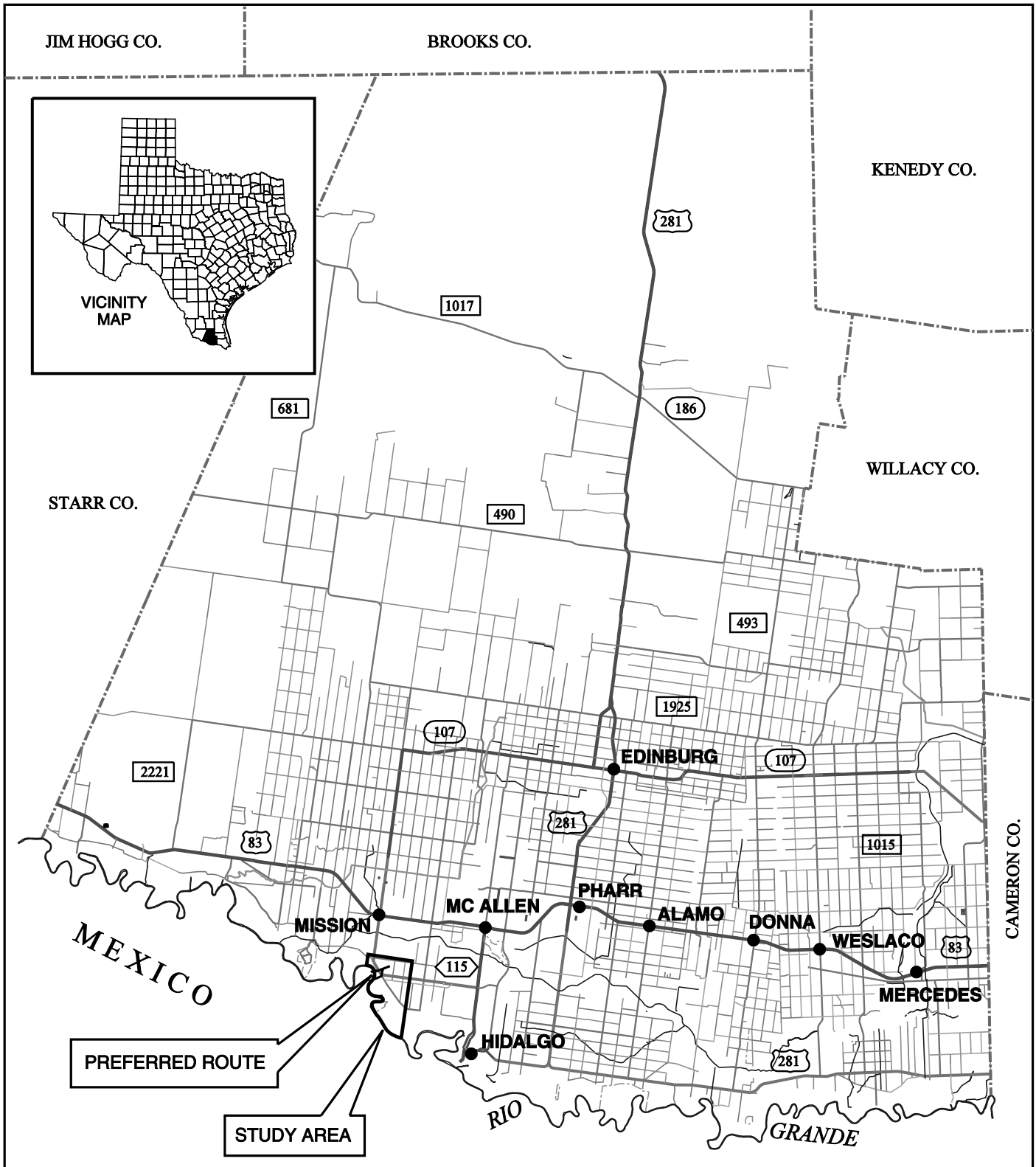
Under Executive Order (EO) 10485 of September 3, 1953, as amended by EO 12038 of February 3, 1978, no one may construct, operate, maintain or connect electric transmission facilities at the U.S. international border for the transmission of electric energy between the United States and a foreign country without first obtaining a Presidential permit from the U.S. Department of Energy (DOE). In addition, before electric energy can be exported from the United States to a foreign county, an electricity export authorization must be obtained from DOE pursuant to section 202(e) of the Federal Power Act (FPA) (16 U.S.C. §824a(e)).

On September 11, 2003, Sharyland Utilities L.P. (Sharyland) filed an application with DOE's Office of Fossil Energy (FE) for a Presidential Permit to construct, operate, maintain and connect a 138,000-volt (138-kV) electric transmission line across the U.S.-Mexico border in Hidalgo County, Texas. Sharyland is an investor-owned utility located in McAllen, Texas. Sharyland provides transmission and distribution service within a 6,000-acre master-planned community, called Sharyland Plantation, situated between the cities of McAllen and Mission along the border between Texas and Mexico (Figure 1-1). The proposed transmission facilities would originate at Sharyland's Railroad Substation, located in Hidalgo County, Texas, and extend approximately 1.6 kilometers (km) (1 mile) to the U.S.-Mexico border (Figure 1-2). At the border, these facilities would interconnect with similar facilities to be owned and operated by the Comision Federal de Electricidad (CFE), the national electric utility of Mexico.

DOE is preparing this environmental assessment (EA) in accordance with the National Environmental Policy Act of 1969 (NEPA), 42 United States Code (U.S.C.) §§ 4321 et seq., to address reasonably foreseeable impacts from the proposed federal action (granting or denying a Presidential Permit for the proposed transmission facilities) and reasonable alternatives, including the No Action Alternative, pursuant to DOE's NEPA Implementing Procedures (10 CFR Part 1021).

The Electric Reliability Council of Texas (ERCOT) and CFE have a long history of emergency assistance across the Mexico/United States border. However, despite the fact that ERCOT and CFE share a common border of several hundred kilometers (miles), exchanges of electric energy between ERCOT and CFE are minimal. Together, they prepared a joint interconnection study[1] in December 2003 that outlines the opportunities and benefits that could be realized by both systems by the installation of new synchronous ties in remote areas for block load support, and asynchronous interconnections, such as that proposed by Sharyland, using High Voltage Direct Current (HVDC), in other regions of the border, to provide effective and rapid support for emergency conditions in the border region. The study identifies several interconnection opportunities and specifically identifies the international transmission line proposed by Sharyland (Railroad Substation to Cumbres Substation) as one option, in the vicinity of McAllen, Texas, that would provide improved electric reliability for CFE and ERCOT.

[1] The complete text of the study is available at www.puc.state.tx.us/electric/reports/mir/mi_report.pdf



north

5 0 5 10 miles

Base Map: TxDOT General Highway Map; Hidalgo County, Texas

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Figure 1–1

PROJECT LOCATION

SHARYLAND – DC MEXICO TIE PROJECT

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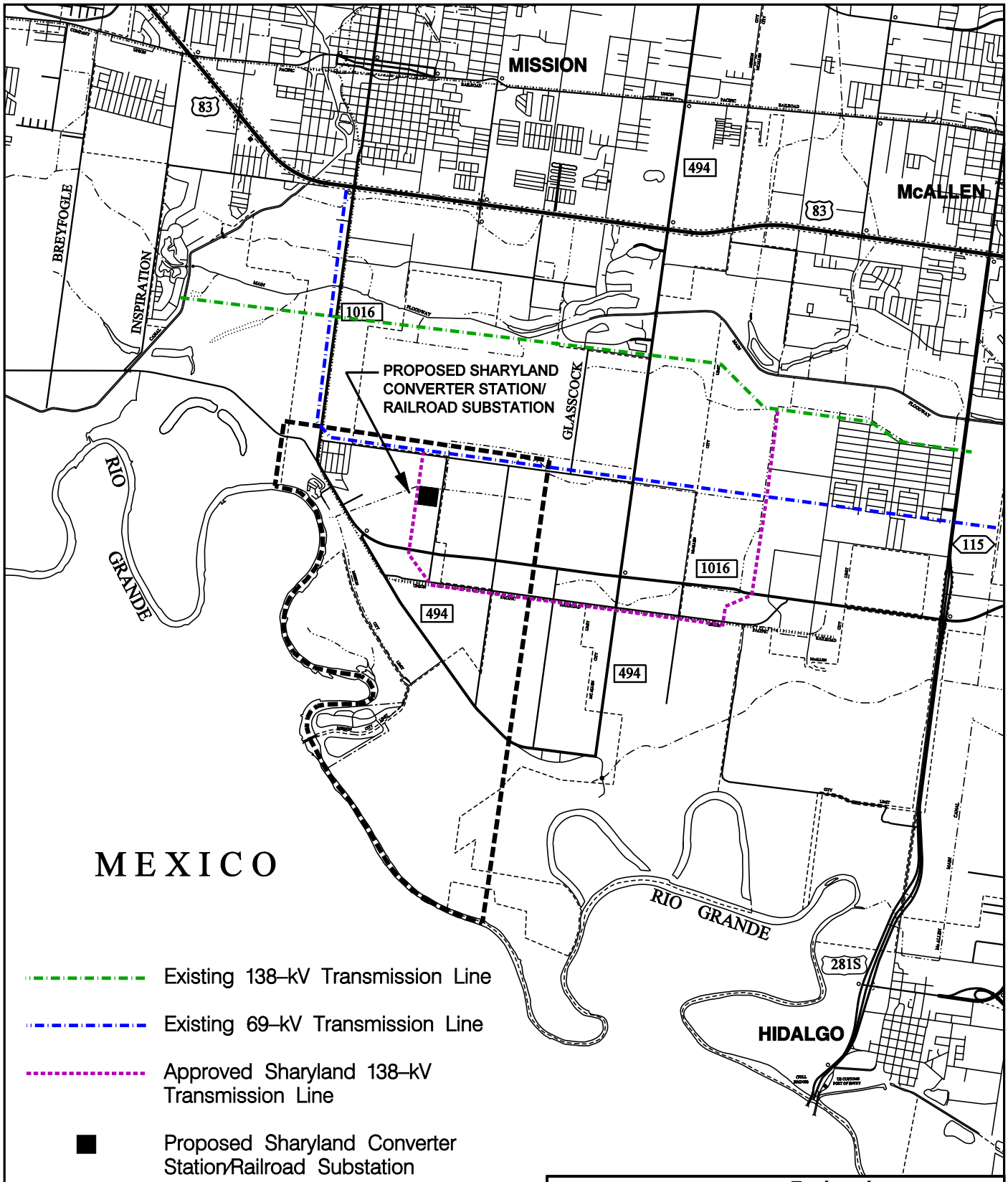

Base Map: TxDOT County Highway Map; Hidalgo County, Texas

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Figure 1–2

STUDY AREA LOCATION

SHARYLAND – DC MEXICO TIE PROJECT

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Sharyland indicated in its Presidential permit application that it does not intend to export electric energy to Mexico, on its own behalf, using the proposed facilities. Rather, Sharyland intends to operate the proposed facilities as "open access" facilities available for use by other parties to transfer electric power between the United States and Mexico. Prior to such use of the proposed facilities, any entity subject to section 202(e) of the FPA must obtain an electricity export authorization from the Department of Energy.

1.1 SCOPE OF PROJECT

Sharyland proposes to construct 138-kV electric transmission facilities between its existing transmission facilities in Hidalgo County, Texas, and CFE in Mexico's State of Tamaulipas. The "Sharyland HVDC Interconnection Project" would involve construction of approximately 1.6 km (1 mile) of single-circuit 138-kV transmission line, on a single support structure, and a back-to-back high-voltage, direct current (BTB-HVDC) converter station within the United States. The proposed transmission line would "tap" (connect to) the Sharyland 138-kV transmission system at its Railroad Substation and continue to the Rio Grande River, the U.S.- Mexico border. At the border, the proposed transmission facilities would interconnect with similar facilities of CFE and continue 6.8 km (4.2-mile) into Mexico, where the line would terminate at CFE's Cumbres Substation.

The majority of transmission interconnections between the electric systems of the United States and Mexico are synchronous and operated radially. Through the use of the proposed BTB-HVDC converter, the proposed transmission facilities would operate as an asynchronous connection. The BTB-HVDC converter would be constructed between Sharyland's Railroad Substation and the border, approximately 30.5 meters (m) (100 feet [ft]) west of the Railroad Substation. The BTB-HVDC converter station would consist of a device to convert 138-kV alternating current (AC) to direct current (DC), a connecting length of DC buswork, and a device to convert the DC to 138-kV AC. Both main components of the converter station would be located within a single structure, surrounded by external peripheral gear, covering an area of approximately 30.5 m by 91.4 m (100 ft by 300 ft). Additionally, a 138-kV switchyard would be located at the converter site. The approximate footprint of the converter station would be 2.8 hectares (ha) (7 ac).

Sharyland proposes to construct the Sharyland HVDC Interconnection Project in two phases. The first phase would include construction of a single-circuit 138-kV transmission line to Mexico and a BTB-HVDC converter facility with a capacity of 150 megawatts (MW). The second phase would expand the converter facility to a capacity of 300 MW. Although the exact timing of the second phase is not certain, DOE has prepared this environmental assessment based on the full build-out of the proposed project.

1.2 PURPOSE AND NEED

Federal regulations implementing NEPA require an environmental assessment on any action at any time in order to assist agency planning and decision making.

1.2.1 Federal Agency Purpose and Need

The purpose and need for the DOE action is to determine whether it is in the public interest to grant or deny a Presidential permit to Sharyland for the construction, operation, maintenance, and connection of the proposed 138-kV transmission line that would cross the U.S. international border. DOE published a notice of receipt of the Sharyland application for a Presidential permit in the *Federal Register* on October 2, 2003 (68 FR 56825). DOE's action is in response to the applicant's request for a Presidential permit. Like all federal agencies, DOE must comply with NEPA before decisions are made and before actions are taken. The NEPA process is intended to help decision makers understand the environmental consequences of their actions.

1.2.2 Applicant's Purpose and Need

The Sharyland Plantation development consists of approximately 2,428.1 ha (6,000 ac) of contiguous land located south of, and between, the cities of McAllen and Mission, Texas. The development is adjacent to and just north of the border between the United States and Mexico. Sharyland Plantation is being developed as a planned community that contemplates a mixed property use environment with industrial, commercial, and residential areas. The ultimate electrical load is anticipated to be 350 MW. The ultimate number of electrical consumers is anticipated to reach approximately 12,000 between 2015 and 2020.

Sharyland received a Certificate of Convenience and Necessity (CCN) from the Public Utility Commission of Texas (PUC) in 1999, which authorized it to provide electrical service to Sharyland Plantation; a 138-kV transmission system is being constructed.

In recent years, electric load growth in southeast Texas (also described as the Lower Rio Grande Valley, or more simply, the Valley) has been well in excess of the average growth rate for the rest of the Electric Reliability Council of Texas (ERCOT)[2]. At the same time, the Valley has experienced substantial transmission congestion and reliability problems because the existing 138-kV system is not adequate under contingency conditions. This has resulted in increased costs caused by the operation of certain generating units (reliability must run[3] [RMR]) exclusively to support electric system reliability. Although ERCOT plans extensive improvements to the existing system over the next several years, significant congestion and reliability problems are expected to remain until ERCOT's 345-kV system is extended further south along the border.

[2] ERCOT is the corporation that administers the Texas power grid, and is one of ten regional reliability councils in North America. ERCOT is regulated by the Public Utility Commission of Texas and its members are comprised of retail consumers, investor and municipally owned electric utilities, electric co-ops, river authorities, independent generators, power marketers, retail electric providers and independent members.

[3] ERCOT protocols define a RMR unit as a generation resource operated under the terms of an annual agreement with ERCOT that would not otherwise be operated except that they are necessary to provide voltage support, stability or management of localized transmission constraints under first contingency criteria where market solutions do not exist.

While ERCOT's planned 345-kV transmission lines are expected to eventually alleviate transmission constraints in the Laredo and Lower Rio Grande Valley areas, but these lines are not likely to be constructed before 2010. In the interim, the proposed Sharyland HVDC Interconnection Project, which is proposed to be completed by the end of 2005, would be available to alleviate reliability problems in the Valley and to provide emergency support to both the ERCOT and CFE grids. At present, there is available capacity from gas-fired, combined-cycle generation in Northern Mexico, which could be transmitted to Texas markets on an as-needed basis over the proposed HVDC interconnection. The Sharyland HVDC Interconnection Project would facilitate the creation of a power market to trade electricity between ERCOT and CFE, thus providing the opportunity for reduced prices to electric consumers in Texas and the development of a more liquid wholesale market in ERCOT.

1.3 OTHER AGENCY ACTIONS

1.3.1 U.S. Army Corps of Engineers

The construction of the transmission line across the Rio Grande would be subject to approval under Section 10 of the River and Harbors Act. A permit for the crossing must be obtained from the U.S. Army Corps of Engineers (USACE) prior to construction of the crossing. Section 10 permits are required for any activity conducted in, over, or under a navigable water of the United States. The Rio Grande has been determined, by the USACE, to be navigable for approximately 442.6 km (275 miles) inland from its mouth at the Gulf of Mexico. In addition, if fill material is placed into "waters of the United States," the project would also be subject to Section 404 of the Clean Water Act, which is also administered by the USACE.

Since the proposed transmission line would cross an international border, additional permitting requirements come into play relative to the USACE permit. The USACE regulations at 33 CFR 322.5(h) state that the construction and maintenance of electric power transmission lines across the border of the United States with a foreign country must be authorized by the President, the Secretary of State, or the appropriate delegated official. The USACE regulations further state that an application for approval must be submitted to the Secretary of Energy. The USACE regulations reference EO 10485, EO 12038, and 18 CFR 32.

1.3.2 International Boundary and Water Commission

A license from the International Boundary and Water Commission (IBWC) is required for the construction of the proposed transmission line crossing IBWC-controlled lands. The IBWC has established requirements regarding height clearances and distances of structures from the levee and river; however, the IBWC has no formalized application form. Sharyland must submit a letter requesting permission to construct the transmission line to the IBWC through its Mercedes, Texas, field office. The letter would be accompanied by drawings and plans sufficient to adequately describe the proposed project. The submittal would also include EA information which describes the potential environmental

impacts. A formal EA and coordination with other state and federal agencies may be required depending upon IBWC's evaluation of the proposed project. Sharyland provided IBWC with final design drawings for construction of the crossing of the Rio Grande identifying the River Mile at which the proposed line would intersect the main channel of the Rio Grande and a surveyed cross-section covering from the U.S. to the Mexican Levee. It is anticipated that two poles may be placed within the U.S. floodplain of the Rio Grande, and if appropriate, a hydraulic model and scour analysis will be provided.

1.3.3 Public Utility Commission of Texas

Sharyland must also submit an application for a CCN from the PUC. The application must address environmental and land use issues referenced in Section 37.056(c)(4) of the Texas Utilities Code, and PUC Rule 25.101(b)(3)(B).

1.3.4 Texas Historical Commission

The Texas Historical Commission (THC) is the state agency responsible for historic preservation. Since the proposed project requires a federal action (Presidential permit), Section 106 of the National Historic preservation Act (NHPA) requires the lead federal agency (DOE) to seek input and consultation from the State Historic Preservation Officer (SHPO). The THC has concurred with the findings of the cultural resources survey of the proposed project (letter in Appendix A).

1.3.5 U.S. Fish and Wildlife Service

The U.S. Fish and Wildlife Service (FWS) is the principal federal agency responsible for conserving protecting, and enhancing fish, wildlife, and plants and their habitat. FWS is also responsible for administering the Endangered Species Act (ESA) and in this capacity will engage in informal consultation with the DOE through review and comment on this draft EA.

1.3.6 Texas Parks and Wildlife Department

The Texas Parks and Wildlife Department (TPWD) is the state agency charged with conserving and protecting the state's fish and wildlife and other natural resources, as well as administering the state's parks, natural areas, and wildlife management areas. The agency also enforces state laws and regulations dealing with the state-designated endangered or threatened species. TPWD reviewed the pre-approval EA and provide comments and recommendations to DOE. As a result, Sharyland will incorporate the use of line markers to reduce the likelihood of potential bird collisions, and will dispose of soil excavated to accommodate transmission poles in previously-disturbed upland locations.